

BEFORE  
THE PUBLIC SERVICE COMMISSION OF  
SOUTH CAROLINA  
DOCKET NO. 92-209-E - ORDER NO. 93-261  
APRIL 8, 1993

IN RE: Integrated Resource Plan Filed ) ORDER  
by Carolina Power & Light ) RULING ON  
Company ) INTEGRATED  
 ) RESOURCE PLAN

I.

INTRODUCTION

In 1987, the Public Service Commission of South Carolina (the Commission) established Docket No. 87-223-E to develop procedures for integrated resource planning by electric utility companies. By Order No. 91-885, issued October 21, 1991, in Docket No. 87-223-E, the Commission adopted integrated resource planning (IRP) procedures after a collaborative process involving the Commission's jurisdictional electric utilities, South Carolina Department of Consumer Affairs, Nucor Steel, South Carolina Energy Users Committee, and the Commission Staff. The procedures were clarified by Order No. 91-1002. On or about April 30, 1992, Carolina Power & Light Company (CP&L or the Company) filed, pursuant to the IRP procedures, its 1992 Integrated Resource Plan for Commission consideration.

CP&L's filing was duly noticed to the public, and Petitions to Intervene were received from the following parties: South Carolina

Pipeline Corporation (SCPC), Steven W. Hamm, Consumer Advocate for the State of South Carolina (the Consumer Advocate), South Carolina Energy Users Committee (SCEUC), Allied-Signal, Inc. (Allied-Signal), and Nucor Steel, A Division of Nucor Corporation (Nucor).

Following a series of collaborative meetings involving CP&L and the other parties, the parties participating in the Docket and the Commission Staff filed issues lists and prefiled testimony. On December 7, 1992, a Stipulation between CP&L, Nucor, and the Commission Staff was filed which stipulated certain issues between the three parties. On December 8, 1992, a Stipulation between SCPC and CP&L was presented to the Commission.

A public hearing was held in the Commission's Hearing Room commencing at 11:00 a.m., Tuesday, December 8, 1992, the Honorable Henry G. Yonce, presiding. William F. Austin, Esquire, and Len S. Anthony, Esquire, represented CP&L; Sarena D. Burch, Esquire, represented SCPC; Nancy V. Coombs, Esquire, represented the Consumer Advocate; Arthur G. Fusco, Esquire, represented SCEUC; Carolyn C. Matthews, Esquire, represented Allied-Signal, Inc., Metglas Products; Garrett A. Stone, Esquire, and Duncan McIntosh, Esquire, represented Nucor; and Gayle B. Nichols, Staff Counsel, represented the Commission Staff.

CP&L presented the testimony of Bobby L. Montague, David R. Nevil, B. Mitchell Williams, Dr. John L. Harris, and Verne B. Ingersoll, II. Dr. Dennis W. Goins testified on behalf of Nucor. The testimony of Nicholas Phillips, Jr. on behalf of SCEUC, Paul

Chernick on behalf of the Consumer Advocate, and Frederick R. Plett on behalf of Allied-Signal was stipulated to by the parties.

II.

BACKGROUND

The Commission issued procedures in 1991 requiring the utilities to file Integrated Resource Plans (IRPs). The Commission has jurisdiction to require filing of IRPs by utilities and to require other actions to implement integrated resource planning in South Carolina.

The objective of the IRP process is the development of a plan that results in the minimization of the long run total costs of the utility's overall system and produces the least cost to the consumer, consistent with the availability of an adequate and reliable supply of electricity while maintaining system flexibility and considering environmental impacts. In conjunction with the overall objective, the IRP should contribute toward the outcomes of improved customer service, additional customer options, and improved efficiencies of energy utilization. Order No. 91-1002, supra.

Pursuant to the procedures, each utility must file a detailed 15 year IRP every three years beginning in April 1992. The IRP filing must contain a statement of the utility's long-term and short-term objectives and how these objectives address the overall objective of the IRP process as stated by the Commission. The filing must also indicate how the utility's resource plans seek to ensure that the utility incorporates the lowest cost options for

meeting the consumers' electricity needs consistent with the availability of an adequate and reliable supply of electricity. Some other requirements of the utility's IRP filing include the evaluation of the cost effectiveness of each supply-side and demand-side option, consideration of the environmental costs of the plan, a demand and energy forecast, a discussion of risk assessment associated with the plan, transmission improvements and/or additions necessary to support the plan, evaluation and review of existing demand-side options utilized by the utility as well as discussion of future demand-side and/or supply-side options.

Finally, the IRP procedures require that the Commission review a utility's IRP filing to evaluate the extent of compliance with the Commission's procedures. The Commission is also to review and determine whether the options selected and incorporated within the IRP are consistent with the Commission's procedures and whether such options have been justified by the utility within its IRP filing. The Commission does not intend to dictate to utility management the specific options that should be adopted as part of the IRP. The utility must maintain responsibility for its performance regarding the implementation of the selected resource options.

When the Company seeks to recover its costs, the Commission will determine whether the costs, incurred over time, resulting from implementing each chosen option are consistent with the cost recovery procedures. The Commission may also review the appropriateness of the Company's implementation process for each

option. The IRP procedures provide that a utility may file a cost recovery plan with the Commission for approval.

On or about April 30, 1992, CP&L filed its 1992 IRP with the Commission consistent with the requirements of the Commission's IRP rules. CP&L's 1992 IRP filing consists of three volumes and an Executive Summary.

### III.

#### ISSUES AND EVIDENCE

Based on the testimony, exhibits and evidence received by the Commission during the hearing and the entire record in this matter, the Commission will herein discuss the issues and applicable evidence.

##### A. Company's Stipulation with Commission Staff and Nucor

The Stipulation between CP&L, Nucor, and the Commission Staff was filed as Hearing Exhibit No. 1 in this Docket during the public hearing.<sup>1</sup> The Stipulation sets forth the parties' agreement that the Commission Staff has not identified any aspects of CP&L's 1992 IRP which appeared to be inconsistent with the requirements of Order No. 91-1002, issued in Docket No. 87-223-E. The Stipulation also required CP&L to fully justify to the satisfaction of the Commission its overall IRP and the resource options included within the plan.

The Stipulation also addresses the fact that a plan for recovery of DSM costs will not be addressed in this IRP proceeding,

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1. This Stipulation is attached as Appendix A to this Order.

nor will the issue of fuel switching. However, the Stipulation sets forth three criteria that should be met before recovery of DSM costs is appropriate. The Stipulation also incorporates a list of recommendations developed by the Staff and agreed to by the Company and Nucor to be incorporated in developing the next IRP.

The Stipulation addresses existing resource options. The parties to the Stipulation have agreed as follows:

Existing supply-side options already in service or under contract are treated as given for purposes of the Commission's evaluation of the plan. The IRP process was designed in part to encourage consideration of DSM options by establishing a mechanism to evaluate and incorporate such options within the utility planning process.

B. Carolina Power & Light Company's IRP

CP&L's IRP process begins with an explanation of its integrated resource planning process. The IRP process then continues with a forecast, demand-side planning, supply-side planning, a financial analysis, and ends with a consideration of other factors, such as transmission and distribution planning.

CP&L presented five witnesses who explained the major components of the Company's plan.

Bobby L. Montague, Vice President of System Planning and Operations of the Company presented an overview of the Company's planning process and IRP. According to Mr. Montague, the IRP process begins with CP&L's demand-side portfolio. Mr. Montague explained that in formulating this portfolio, CP&L:

Examines the costs, benefits, and market potential of those programs currently implemented and those new programs which appear to hold promise. In evaluating programs, multiple criteria relating to economic,

operational, financial, technical, regulation, and marketing are considered. The selection of cost-effective programs for inclusion in the Integrated Resource Plan is insured by comparing program costs to CP&L's 'avoided cost.' These avoided costs represent the supply-side capacity and energy costs that can be avoided by implementing DSM program options. TR. Vol. 1, p. 24, lines 18-23

Mr. Montague explained that once cost-effective DSM resources are identified, the types and amounts of supply-side resources available to CP&L are determined. Mr. Montague testified that excessive reliance on any single type of resource is avoided to produce a diversified plan that minimizes cost over the long term while maintaining flexibility to respond to changing conditions. Mr. Montague testified that CP&L's IRP anticipates the addition of approximately 900 megawatts of DSM load reduction capability over the 15-year planning period. He explained that on the supply-side, CP&L is planning a combination of purchases from customer-owned generation and other utilities and the addition of combustion turbine (CT) capacity, as well as other additional peaking resources.

Mr. Montague testified that CP&L's IRP includes consideration of environmental impacts. He testified that, where quantifiable, the environmental costs are included as part of the cost of the resource option, and otherwise, the impacts are considered in a qualitative manner.

Mr. Montague testified that CP&L developed and analyzed seven (7) alternative integrated resource plans. Mr. Montague testified that Plan B was determined to be the optimal alternative. He

admitted that the IRP actually selected by CP&L was not identical to one of the seven (7) plans studied.<sup>2</sup> However, Mr. Montague testified that the resource additions for all seven (7) plans have been shifted back two (2) years to reflect the Company's revised forecast.

David R. Nevil, Manager of the Rates & Energy Services Department for CP&L, testified about the history of and current focus of CP&L's DSM programs. Mr. Nevil testified that CP&L's existing base load capacity is adequate throughout the fifteen year planning period and that the capacity has the potential to supply significantly more energy than currently required to meet customer needs. Therefore, Mr. Nevil explained there is no need for additional conservation programs and DSM programs aimed at deferring the need for future peaking capacity are the most appropriate at this time. Mr. Nevil testified that CP&L's DSM programs have evolved to include targeted load shape objectives: strategic conservation, load shifting, peak clipping, valley filling, and strategic load growth. Mr. Nevil testified that, through December 1991, CP&L's programs have achieved 1,318 MW of summer peak load reduction capability.

B. Mitchell Williams, Manager of Demand-Side Management Programs for CP&L explained the Company's specific DSM programs available to its residential, commercial, and industrial customers. Mr. Williams testified that the development of CP&L's DSM programs

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2. The IRP summary is found in Hearing Exhibit 4, Attachment 2 to Mr. Montague's pre-filed testimony.



is a three stage dynamic process consisting of the establishment of DSM objectives, program development and evaluation, and monitoring. Mr. Williams explained the economic criteria of a DSM option in the IRP as follows:

CP&L evaluates the cost-effectiveness of DSM options based on direct and measurable benefits and costs. DSM options are examined from four different economic perspectives, where appropriate. They are: 1) the utility point of view - The Utility Cost Test, 2) the ratepayers' perspective - The Ratepayer Impact Measure Test, 3) the DSM participant's viewpoint - The Participant Test, and 4) the utility and its ratepayers taken together as a group - The Total Resource Cost Test. These four economic tests are different measures of cost-effectiveness, weighing the benefits against the costs of a DSM option. However, since each test represents a different perspective the assignment of benefits and costs vary for each test. The costs and benefits components measured for input to these tests include supply costs, utility program costs, participant costs, changes in revenues to the utility or changes in bills to the participant, incentives paid to participants, and participation charges paid to the utility. TR. Vol. 2, p. 57, lines 11-23.

Mr. Williams testified that the current IRP projects demand-side management summer peak load reduction capability will increase by 900 MW, from 1,318 MW in 1991 to 2,218 MW in 2006. Mr. Williams testified that the net present value of benefits savings from existing DSM programs through the year 2006 is approximately \$269 million.

Dr. John L. Harris, Manager of Forecasting and Revenue Requirements, explained the Company's forecast.<sup>3</sup> Dr. Harris

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3. An executive summary of the forecast is presented in Chapter 3, Volume I of the IRP. Detailed summaries of the end-use energy projections and load shape forecasts are presented in Volume II, Appendix A, and summaries of the econometric energy and peak load forecasts are presented in Volume III.

testified that the forecast process considered the effects of demographic, economic, technological, and meteorological factors on electricity use. Dr. Harris stated that CP&L utilized both econometric and end-use methods to project electricity use and that these two approaches resulted in similar projections of future electricity use. He stated that the various forecasts incorporated the effects of CP&L's DSM programs.

Dr. Harris testified that a slower growth scenario typifies CP&L's electricity future over both the long and short term. He testified that over the next 15 years, CP&L's energy growth is expected to average 1.8% annually and peak load growth is expected to average 1.7% annually. Dr. Harris explained, however, that uncertainty is naturally a part of the forecasting process.

Verne B. Ingersoll, II, Manager of System Planning in the System Planning & Operations Department of CP&L, offered testimony regarding the evaluation of supply-side resources considered in the Company's IRP. In addition, Mr. Ingersoll explained the process used by CP&L to develop and evaluate alternative resource plans.

In describing the supply-side portion of CP&L's IRP, Mr. Ingersoll testified that the Company first reviews resources<sup>4</sup> and then conducts a screening analysis. In the screening analysis, Mr. Ingersoll testified CP&L evaluates supply-side options in regard to technical feasibility, commercial availability, and cost competitiveness. Mr. Ingersoll stated that 13 different

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4. Mr. Ingersoll testified that CP&L has a mix of generation technologies, fuel sources, and ownership.

technologies consisting of 30 different resource options were included in the screening analysis. Of these 13 technologies, CP&L selected seven to be used in future analysis.

Mr. Ingersoll testified that the Company's next step was Plan Development where supply-side and demand-side resources are combined to form alternative resource plans. Mr. Ingersoll explained that CP&L's process allows demand-side and supply-side resources to compete because the Company uses "avoided costs" in demand-side and supply-side planning.

Finally, Mr. Ingersoll testified that the plans are then evaluated through a probability assessment process. After the probability assessment, the various plans are ranked based on economic, financial, environmental, and reliability criteria. Ultimately, a best overall plan is selected.

Mr. Ingersoll testified that the IRP submitted by CP&L was basically Plan B, shifted back by two years. He explained that the conditions which caused Plan B to be shifted back by two years would also cause the six alternative plans to be shifted back by two years. TR. Vol. 2, p. 120, lines 3-12.

Paul Chernick testified on behalf of the Consumer Advocate. Mr. Chernick stated that CP&L is not committed to cost-effective conservation as a least-cost alternative to supply. Instead, Mr. Chernick asserts load building, load shifting, and load control are CP&L's dominant objectives in the initiation, selection, and design of DSM programs. Mr. Chernick testified that CP&L does not rely primarily on the TRC test and does not even apply the TRC test to

its valley filling and strategic load growth DSM options. Mr. Chernick concludes that the Commission should require CP&L to pursue all cost-effective demand-side resources, rely on the TRC test as the primary basis for evaluating DSM programs, and to design DSM programs to address market barriers and capture lost opportunities.

Dr. Dennis Goins testified on behalf of Nucor. Dr. Goins stated that the IRP submitted by CP&L is obsolete since the plan presented by CP&L is adjusted to reflect a revised energy forecast and was not subjected to the IRP evaluation process. Dr. Goins testified that the DSM evaluation process is biased against interruptible rates, overstates the costs of DSM programs, and does not monetize externalities. Dr. Goins explained that CP&L also does not consider end-user transmission access (retail wheeling) as a potential DSM option. Dr. Goins concluded that the Commission should require CP&L to correct the deficiencies in its DSM evaluation process, monetize externalities and file its compliance plan for the Clean Air Act, and file a detailed analysis of end-user transmission access and its potential as a DSM option.

Frederick R. Plett, represented Allied-Signal, Inc. Mr. Plett testified that his purpose was not to criticize CP&L, but rather to discuss the value of "positive regulation." He further testified that amorphous metal distribution transformers (AMDTs) could provide benefits to electrical customers in South Carolina and that the Commission should encourage economic utility investments. According to Mr. Plett, amorphous metal transformers significantly

reduce core losses when compared to silicon steel core transformers. Generally, the more efficient the transformer the higher the purchase price. The appropriate test is to compare total owning costs of transformers. Mr. Plett proposed the use of A and B factors in calculating the "total owning costs."

The parties stipulated to the testimony of Nicholas Phillips, Jr., who testified on behalf of the South Carolina Energy Users Committee. In summary, Mr. Phillips testified that utilities in South Carolina, including CP&L, have engaged in conservation and load management programs for at least 10 years. Mr. Phillips testified that the Commission should be aware that CP&L data indicates that its rates would be lower without DSM for the next 10 years. However, CP&L forecasts lower rates with DSM over the very long term under the assumption that its DSM efforts will be successful. Mr. Phillips further testified that approval of the IRP should in no way pre-approve supply-side or demand-side expenditures. According to Mr. Phillips, the Commission should not get involved in the utility decision-making process. The responsibility for decision-making rests clearly with CP&L. Further, Mr. Phillips testified that an IRP proceeding should not include utility ratemaking. Cost-recovery is not an appropriate subject for an IRP, according to Mr. Phillips.

#### IV.

#### FINDINGS AND CONCLUSIONS

Based upon consideration of the foregoing, the Commission makes the following findings of fact and conclusions of law:

A. STIPULATION BETWEEN CP&L, NUCOR, AND THE COMMISSION STAFF

The Stipulation between CP&L, Nucor, and the Commission Staff addresses several major issues of CP&L's IRP filing. The Commission agrees with most aspects of the Stipulation, and the Commission approves this Stipulation. Consistent with the Stipulation, the Commission finds that CP&L's 1992 IRP is consistent with the South Carolina IRP procedures set forth in Order No. 91-1002 in Docket No. 87-223-E. However, this finding does not constitute either pre-approval of costs or prudence for full cost recovery for the resource options included in the IRP, as is stated in the Stipulation.

Paragraph 4 of the Stipulation deals with recognizing that a cost recovery plan for recovery of costs incurred from implementing DSM programs is not to be considered within this IRP proceeding before the Commission. In this case, the Commission agrees. A stated plan for cost recovery may be outlined in a future rate case, as further stated by SCEUC.

Paragraph 5 of the Stipulation states that any proposed cost recovery for DSM or supply-side options must be consistent with Order No. 91-1002 and with the South Carolina Energy Conservation and Efficiency Act of 1992. Paragraph 6 of the Stipulation states:

Any DSM cost recovery mechanism filed by the Company will include an explanation of the specific means to be employed for the recovery of direct DSM costs and any other possible items which would impact customer rates such as DSM incentives. It must include an explanation of the approaches to be followed in determining projected and actual DSM benefits and projected and actual DSM costs. At the time that the Company seeks to recover DSM costs, the cost recovery filing should identify any proposed rate impacts on individual rate

classes resulting from the DSM costs.

Paragraph 7 sets forth the criteria that CP&L must meet before it may recover DSM costs. The specific details for any cost recovery mechanism for the utility will be determined at some future point in time. It is the utility's burden to justify the cost-effectiveness of each DSM resource option in its IRP. The Stipulation sets forth the criteria the Company must include to justify the DSM options.

When DSM cost recovery is considered, the Commission finds that the following three criteria which were set forth in principal in Paragraph 7 of the Stipulation should be met before recovery of such costs is appropriate by the Company:

a. Justification of each DSM resource option by the utility as to its cost effectiveness. The utility must justify each option in its IRP. Justification includes establishing the cost effectiveness of the option using an appropriate method of analysis. Justification of the resource option to the satisfaction of the Commission would mean that it is appropriate to incorporate the option within the IRP. It should be noted that the cost-effectiveness screening of the DSM options is based largely on estimated and projected costs and benefits. Thus the requirements for b and c must be met.

b. Justification of reasonable and prudent implementation costs incurred through an appropriate

implementation process must be shown by the utility. For DSM options, the utility must justify the implementation process which it followed for each option and must justify any costs which exceed the levels projected for the option. The utility must contrast the projected costs and the actual costs and must justify any costs in excess of the projected amount incorporated within the cost-effectiveness analysis.

c. Demonstration that the level of benefits achieved from the option is consistent with the approved IRP. The DSM option must be shown to have achieved an appropriate level of benefits. The utility must contrast the projected benefits with the actual benefits achieved and explain any failure to achieve the estimated benefits. The utility must justify to the Commission the failure to meet the projected level of benefits and justify the costs associated with the option. The failure by the utility to achieve the projected level of benefits does not mean that the direct costs of the options are not recoverable (the level of any reward or incentive might be impacted by the level of accomplishments assuming that such a mechanism is adopted and depending upon the type of incentive mechanism that is adopted by the Commission). The Commission has considered the language of Paragraph 8 of



the Stipulation regarding fuel switching. The Commission agrees that it is not necessary to address the impact of fuel switching on other energy suppliers in this docket at this time. The Commission is of the opinion that it is more important for electrical utilities to implement their respective IRP's and proceed with the IRP process than to introduce another element which is, at this stage, controversial, uncertain and complex. At this point in time, electrical utilities should not be required to consider natural gas DSM options. The Commission will continue to monitor the issue.

B. CP&L'S IRP

CP&L's IRP process has established a resource mix, including DSM programs, which maintain the necessary flexibility to meet projected energy and demand. The forecast used for the 1992 IRP is reasonable given current information. CP&L's demand-side, supply-side, and purchased resource planning processes are consistent with the objectives of the Commission's IRP process. Further, CP&L's integration process is also consistent with the integrated resource planning objectives set forth by the Commission in Order No. 91-1002.

The Commission notes Nucor's concern that CP&L's submitted IRP is not identical to Plan B, the alternative determined to be optimal. However, the Commission finds that the inclusion by CP&L of the revised forecast and the resulting revised timing for the incorporation of the resource options within the various plans did not sufficiently modify the planning process nor the results of the

planning process to necessitate a re-evaluation of the resource options. The IRP process is a dynamic and flexible process which requires modifications to the existing plans when necessary to incorporate additional and updated information. The Commission, therefore, concludes that the IRP as filed by the Company is adequate at this time.

The Commission would like to address CP&L's DSM impact measurement plan. We believe that the Company should make every effort to refine the process of estimating DSM impacts so as to properly verify energy savings achieved through these DSM programs and also identify the projected durability of such savings over time. CP&L should address in future IRP's and Short-Term Action Plans (STAP's) upgrading the estimation process, especially enhancing the engineering estimates, and through consideration of any possible snap-back effects, free-riders, consumer tastes impacting usage under an option, errors resulting from modeling assumptions, and laboratory experiments which do not reflect current realities in the specific areas. A formal plan shall be filed with the Commission for its consideration pertaining to this issue no later than with the Company's 1994 Short-Term Action Plan filing.

The Commission strongly encourages the Company to take the steps necessary to reduce the level of uncertainty and enhance the reasonableness of the projected costs, benefits, and savings used to initially estimate and establish the cost-effectiveness of specific DSM options. Further, the Commission encourages CP&L to

take the necessary steps to improve the accuracy and reliability of the proposed as actual achievements credited to the DSM programs. The actual benefits and savings and the permanence of such benefits credited to the DSM program must be properly verified. It is also essential that the Company balance the costs of evaluation with the value of the information gathered and the degree of accuracy attained. The formal DSM measurement plan which the Commission has required the Company to file should provide the following:

- a. determine the type and magnitude of the DSM impacts of each option;
- b. establish with reasonable certainty that the projected and actual achieved impacts can be attributed to the program by ruling out such factors as weather effects, snap-back effects, free-riders, new technology effects, etc.; and
- c. verify the durability of the actual impacts credited to the various DSM programs.

The Commission notes that there are numerous views on the proper method to address environmental externalities. CP&L testified that it includes the cost of environmental compliance in the assessment of resource options and qualitatively considers environmental effects in resource assessments. The Commission finds that CP&L has followed an approach for considering environmental factors at this time which is consistent with the IRP procedures and that CP&L's evaluation is consistent with Order No. 91-1002, but the Commission will continue to monitor this issue.

CP&L considers utility and non-utility generators including qualifying facilities under PURPA and independent power producers. Based on the evidence, the Commission finds that CP&L purchased

resource planning process is consistent with its directives in Order No. 91-1002. However, this issue will be addressed in future proceedings. The Company should file any purchased power evaluation procedures that it has developed no later than the Company's 1994 Short-Term Action Plan filing.

Although the Commission is not inclined to order CP&L to complete a study on retail wheeling at this time, the Commission encourages CP&L to evaluate and consider retail wheeling as a resource option as it proceeds with its IRP process.

The Commission further finds that CP&L should continue to pursue power delivery efficiencies, such as amorphous metal transformers, where such is cost effective.

The Consumer Advocate, through its cross-examination of the Company witnesses, and its post-hearing brief, implies that CP&L's DSM options process is biased against conservation options. The Stipulation between CP&L, Nucor, and the Commission Staff encourages conservation. The Commission hereby strongly encourages the Company to review and pursue said conservation options which are shown to be cost effective and consistent with the IRP procedures.

All in all, however, the Commission concludes that CP&L's IRP is consistent with the Commission's stated objective for the IRP process and the Company has made a good faith effort to comply therewith. Based upon the information available at this time, CP&L's IRP is adequate to meet the needs of its electric customers in an economical, efficient and reliable manner.

C. PROCEDURE FOR FILING NEW, MODIFIED<sup>5</sup> OR PILOT DSM PROGRAMS

The Commission believes that it should establish a procedure by which the Company may file with the Commission Staff information on new, modified or pilot DSM programs. The overriding concern of the Commission is that the Staff be given the necessary information in a timely manner, so that it will have an understanding of new or modified programs. Therefore, the Commission takes judicial notice of Order No. 93-8, dated January 25, 1993 in Docket No. 92-208-E, Application of Duke Power Company for an Integrated Resource Plan. Attached to that Order was an Appendix which contained filing requirements for interim DSM programs. This Commission adopts these filing requirements for this Docket, and these are attached hereto as Appendix B, and are incorporated herein. These may be modified from time to time by the Staff. We hereby specifically hold in abeyance the establishment of a procedure to deal with these interim filings until some future time.

D. FURTHER FINDINGS AND CONCLUSIONS

1. In developing its next IRP, the Commission orders CP&L:
  - a. To maintain an appropriate portfolio of DSM programs with special consideration of cost-effective programs, including energy efficient options, conservation options and peak reducing options;
  - b. To make full use of pilot projects where feasible and appropriate to evaluate major uncertainties related to DSM options. Such pilot projects should seek to include end-use analysis where feasible and cost justified with emphasis on the identification of market barriers and the resolution of such barriers;
  - c. To seek to develop joint pilot projects with other

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5. "Modified" includes the elimination of a DSM option.

utilities to share costs and benefits;

- d. To pursue actively end-use analysis to gain further insight into consumer behavior where feasible and cost justified;
- e. To seek to ensure that optimum results be attained from all energy audits conducted by or for the Company;
- f. To seek to attain an optimum level of operating efficiency from its supply-side options consistent with the Commission's Order No. 91-1002;
- g. To undertake to develop a methodology for measuring the impacts of DSM options that is cost effective, comprehensive and reasonable;
- h. To explore actively and evaluate new DSM technologies and programs;
- i. To establish an accounting mechanism or process evaluation which will enable the Commission Staff to adequately track all DSM direct costs and properly identify any lost revenues which the Company plans to recover; and
- j. To address issues "a" through "i" within its next two STAP's and the next IRP.

2. The Commission finds that it is appropriate to use multiple tests to determine the cost-effectiveness of DSM options in the IRP process in order to comply with the South Carolina IRP procedures. The Commission finds sole reliance on any one test to evaluate all DSM options is inconsistent with the South Carolina IRP procedures. (See B.6 of the Appendix to Commission Order No. 91-1002).

3. The Commission finds that the IRP procedures, as set forth in Order No. 91-1002, do not require electric utilities to monetize externalities. Section B.8 of the Appendix to that order sets forth the Commission's requirements regarding environmental

and other costs.

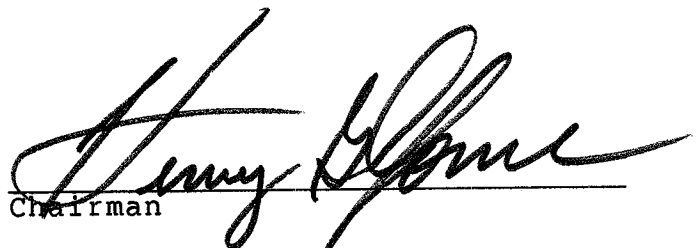
4. The Commission takes note of the Stipulation between SCPC and CP&L, but does not find it necessary to approve or disapprove it at this time.

5. The Company should file with future IRP's the methodology used to develop its avoided cost numbers with an explanation and example.

6. The utility should expand its efforts to obtain useful customer input within the IRP process.

7. That this Order shall remain in full force and effect until further Order of the Commission.

BY ORDER OF THE COMMISSION:

  
Chairman

ATTEST:

  
Executive Director

(SEAL)

APRIL 8, 1993

APPENDIX A

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JOINT STIPULATION AGREEMENT  
BETWEEN THE STAFF OF THE SOUTH CAROLINA PUBLIC SERVICE  
COMMISSION (THE STAFF), CAROLINA POWER & LIGHT (CP&L)  
AND NUCOR STEEL, A DIVISION OF NUCOR CORPORATION (NUCOR)  
REGARDING CP&L'S 1992 INTEGRATED RESOURCE PLAN

Docket No. 92-209-E

The Staff, CP&L, and Nucor have agreed to the following stipulations:

1. The Commission Staff has conducted a general review of the demand and supply-side options presented in CP&L's IRP. Based on this review, the Commission Staff has not identified any aspects of the plan which appear to be inconsistent with the requirements of Order No. 91-1002, issued in Docket NO. 87-223-E.
2. The Company agrees with the following list of recommendations developed by Staff to be incorporated in developing the next IRP.
  - a. CP&L will maintain an appropriate portfolio of DSM programs with special consideration of cost-effective energy efficient options, conservation options and peak reducing options.
  - b. CP&L will make full use of pilot projects where feasible to evaluate uncertainties related to DSM options. Such pilot projects will include end-use analysis with emphasis on the identification of market barriers and the minimization of such barriers.
  - c. CP&L will seek to develop joint pilot projects with other utilities whenever possible to share costs and benefits.
  - d. CP&L will actively pursue end-use analysis to gain further insight into consumer behavior.
  - e. CP&L will seek to ensure that optimum results will be attained from all energy audits conducted by or for the Company.
  - f. CP&L will seek to attain an optimum level of operating efficiency from its supply-side options consistent with the Commission's IRP Order.
  - g. CP&L will develop a cost-effective, comprehensive, and reasonable methodology for measuring the impacts of DSM options.



h. CP&L will actively explore and evaluate new DSM technologies and programs.

i. CP&L will establish an accounting mechanism or process evaluation which will enable the Commission Staff to adequately track all DSM direct costs and properly identify any lost revenue.

j. The Company will address issues a through i within its next two STAPs and the next IRP.

3. The parties to this stipulation believe that:

CP&L is responsible for undertaking in the upcoming IRP public hearing to fully justify to the satisfaction of the Commission its overall IRP and the resource options incorporated within that plan, especially DSM resource options;

a finding by the Commission as to the reasonableness of the IRP means that the Commission has determined that CP&L has developed an IRP which is consistent with the objective statement and procedures set forth in the IRP Order. Such a finding by the Commission means that the Company made a good faith effort to comply with the established procedures and the objective statement of the Order. A Commission determination of reasonableness does not constitute either pre-approval of costs or prudence for full cost recovery;

with regard to the resource options incorporated within the plan, a Commission finding of reasonableness means: a) that the resource options included within the plan would satisfy the projected energy requirements of CP&L's customers given current information; and b) the Commission will monitor the costs incurred in the implementation of each option as to reasonableness and prudence over time and will monitor the implementation process as to its appropriateness. The appropriateness of the costs related to the resource options will be determined during future cases, hearings, and during any other regulatory proceedings designated to address resource cost recovery and must be consistent with existing procedures for supply side options. DSM options must comply with the procedures set forth within this document pertaining to such options;

it is necessary to distinguish between the type of options incorporated within the plan. The IRP process established by the Order of the Commission was not intended to modify any existing regulatory procedures already established for supply-side options. Thus,

existing supply-side options already in service or under contract are treated as given for purposes of evaluating the plan. However, the IRP process was designed to emphasize DSM options by establishing a mechanism to evaluate and incorporate such options within the utility planning process.

4. A cost recovery plan for the costs to be incurred as a result of the implementation of the DSM component of the IRP is not to be considered within this IRP proceeding before the Commission.

5. Any future proposed cost recovery for DSM and/or supply-side options incorporated within the IRP will be consistent with the Commission's IRP Order NO. 91-1002 and with the South Carolina Energy Conservation and Efficiency Act of 1992.

6. Any DSM cost recovery mechanism filed by the Company will include an explanation of the specific means to be employed for the recovery of direct DSM costs and any other possible items which would impact customer rates such as DSM incentives. It must include an explanation of the approaches to be followed in determining projected and actual DSM benefits and projected and actual DSM costs. At the time that the Company seeks to recover DSM costs, the cost recovery filing should identify any proposed rate impacts on individual rate classes resulting from the DSM costs.

7. At this time the parties to this stipulation believe that when DSM cost recovery is considered there are three criteria which should be met before recovery of such costs by the Company is appropriate. These are:

a. justification of each DSM option by the utility as to its cost-effectiveness. The utility must justify each option in its IRP. Justification includes establishing the cost-effectiveness of the option using an appropriate method of analysis.

b. justification by the utility of the reasonableness and prudence of the implementation costs incurred through an appropriate implementation process. The Company must justify the implementation process which it followed for each option and must justify specifically any costs which exceed the levels projected for the option.

c. demonstration that the level of benefits achieved from the option is consistent with the approved IRP. The DSM option must be shown to have achieved an appropriate level of benefits. The Company must contrast the

projected benefits with the actual benefits achieved and explain any failure to achieve the estimated benefits. The Company must justify to the Commission the failure to meet the projected level of benefits and justify the costs associated with the option. The failure by the utility to achieve the projected level of benefits does not mean that direct costs relating to the option are not recoverable.

The specific details of any cost recovery mechanism will be established at some future point in time.

8. It is not necessary for the Company to address the impact of fuel switching on other energy suppliers in this docket at this time.

9. The Commission IRP procedures, as set forth in Order No. 91-1002, do not require electric utilities to monetize externalities. Section B.8 of the Appendix to that Order sets forth the Commission's requirements regarding environmental and other costs.

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FILING REQUIREMENTS FOR INTERIM DSM PROGRAMS

- a. Description of program
- b. Specific program objectives
- c. Description of targeted sector
- d. Program service life
- e. Total market potential (number of potential customers or other relevant measure)
- f. Expected saturation to be achieved, including anticipated market growth throughout the life of the program.
- g. Summer/Winter expected on-peak demand change per unit (customer, etc.)
- h. Annual energy change per unit.
- i. Calculation of any estimated lost revenues.  
Explain how such lost revenues were determined.
- j. Calculation of any net lost revenues resulting from the option which are to be applied to the deferred account or will be sought in any way for recovery.
- k. Magnitude of expected load shape impacts (kw/kwh).  
Sources of expected load shape impacts. Identify the type of program such as peak clipping, valley filling, conservation, load shift or other. Describe the method used to estimate potential impacts
- l. Total program cost estimates on a present worth basis (itemized and quantified) [Annual data may be provided upon request].
- m. Total program benefit estimates on a present worth basis. (itemized and quantified) [Annual data may be provided upon request].
- n. Sources of cost/benefit data
- o. \$/kw saved and \$/kwh saved
- p. Test results including:
  - i. utility cost test results
  - ii. total resource cost test results
  - iii. rate impact measure test results
  - iv. other tests necessary to evaluate the program
- q. Explain which test(s) were most appropriate to evaluate the option and why
- r. Customer/vendor incentives expected to be paid, their purpose and how the incentives were derived
- s. Itemized proposed charges to DSM deferred account over the life of the program
- t. Other known expenses itemized over the program life
- u. Calculation of any proposed rewards to be obtained by the Company
- v. Proposed program evaluation methodology-including planned load research methods.
- w. Marketing strategies-including examples of any marketing media to be employed
- x. Potential program problem areas considered.